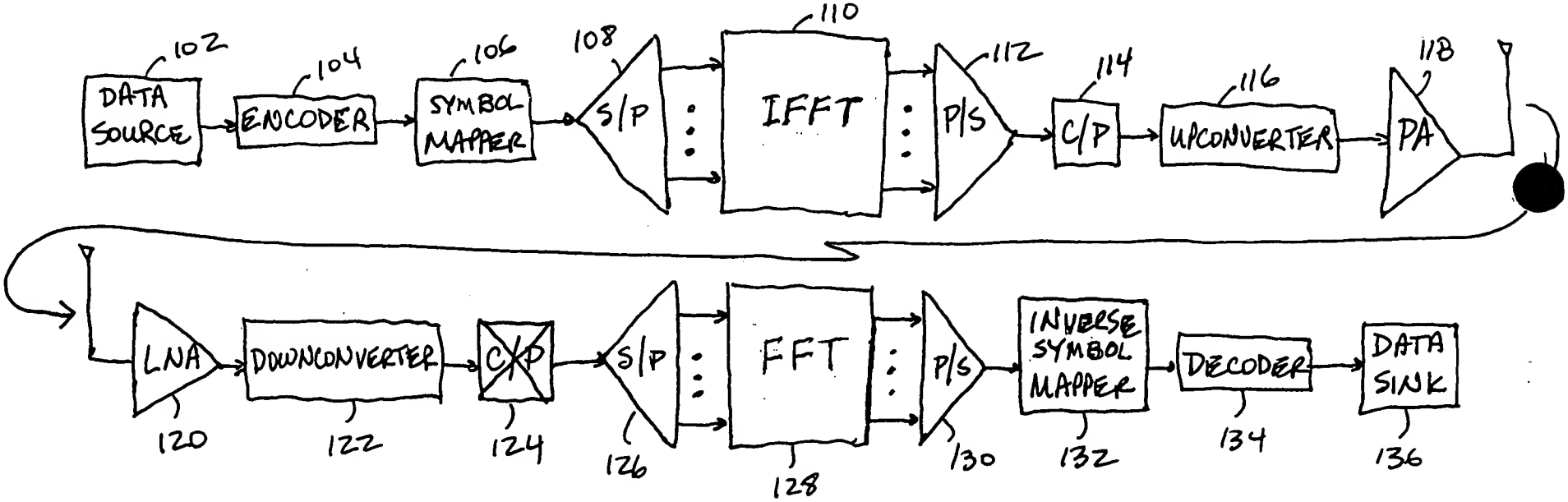
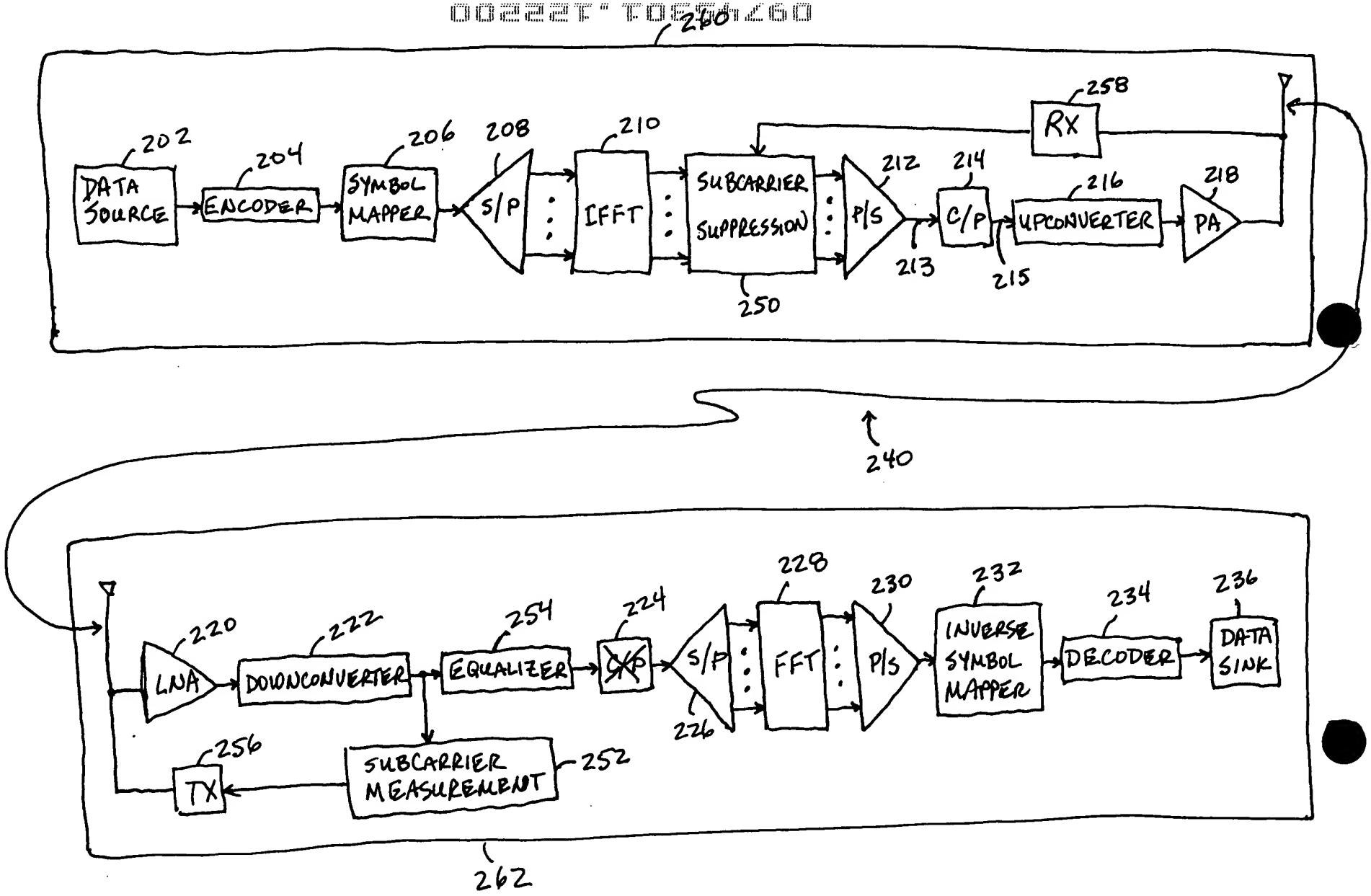


- PRIOR ART -

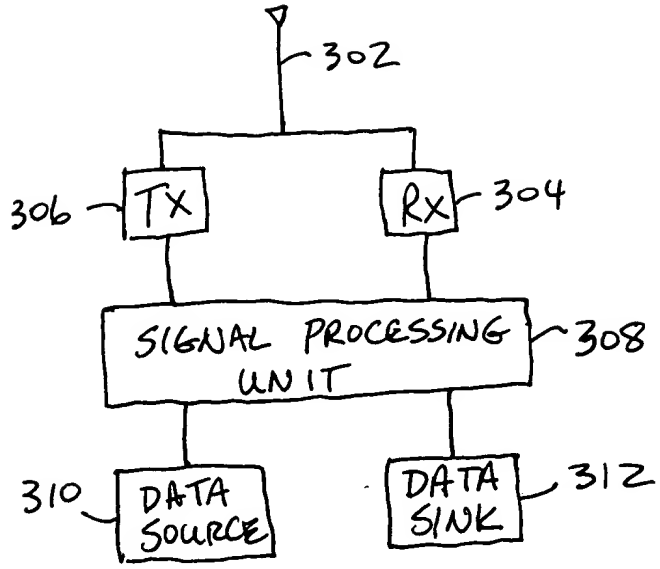
100

FIG. 1



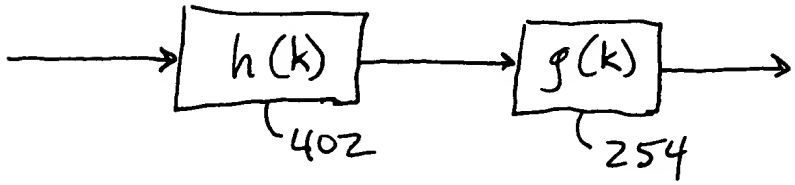
200

FIG. 2



300

FIG. 3



400

FIG. 4

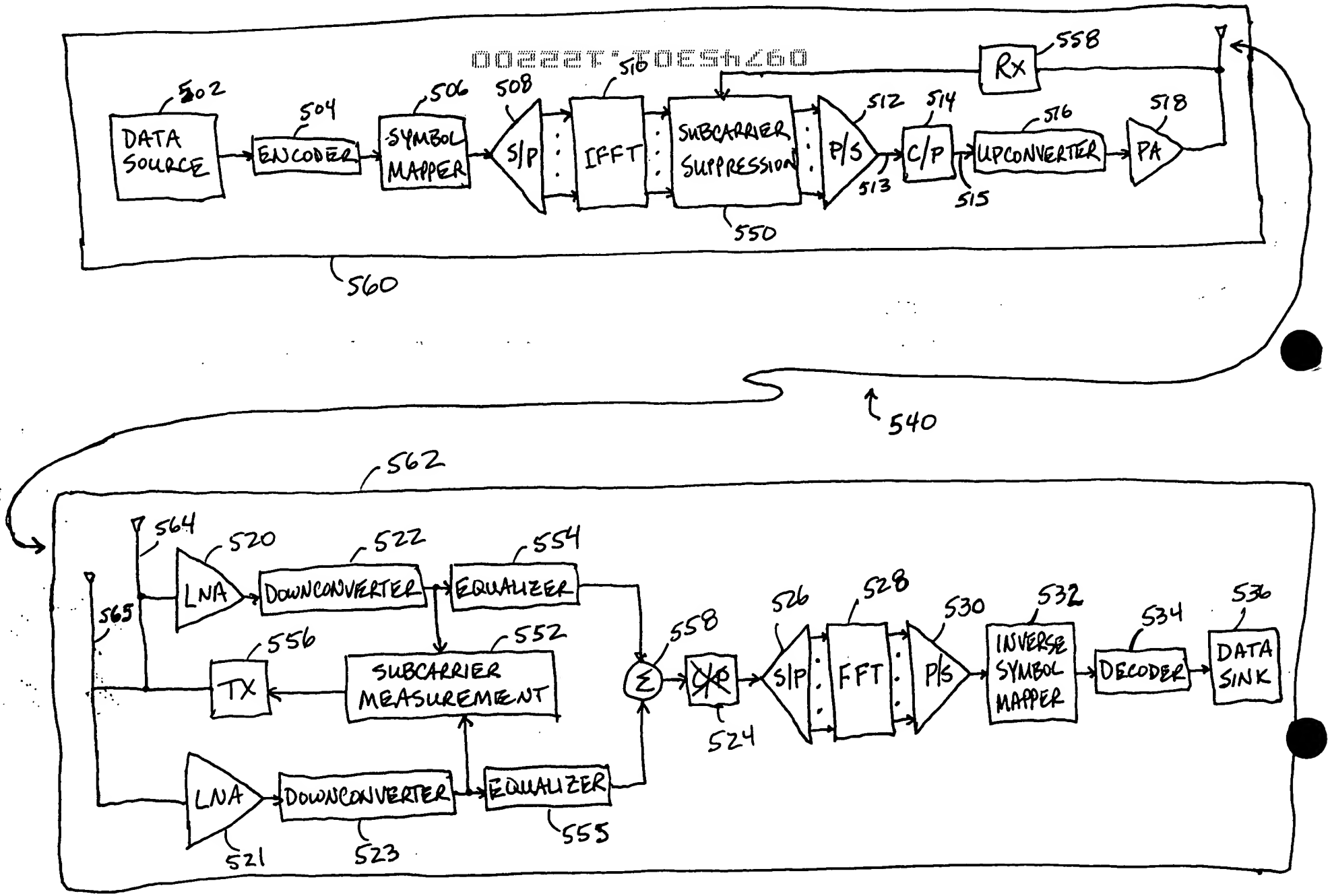

DATA SOURCE
502
ENCODER
504
SYMBOL MAPPER
506
S/P
508
IFFT
510
SUBCARRIER SUPPRESSION
550
P/S
512
513
C/P
514
515
UPCONVERTER
516
PA
518
Rx
558
560
540
562
564
565
LNA
520
DOWNCONVERTER
522
EQUALIZER
554
TX
556
SUBCARRIER MEASUREMENT
552
LNA
521
DOWNCONVERTER
523
EQUALIZER
555
558
524
S/P
526
FFT
528
P/S
530
INVERSE SYMBOL MAPPER
532
DECODER
534
DATA SINK
536
500

FIG. 5

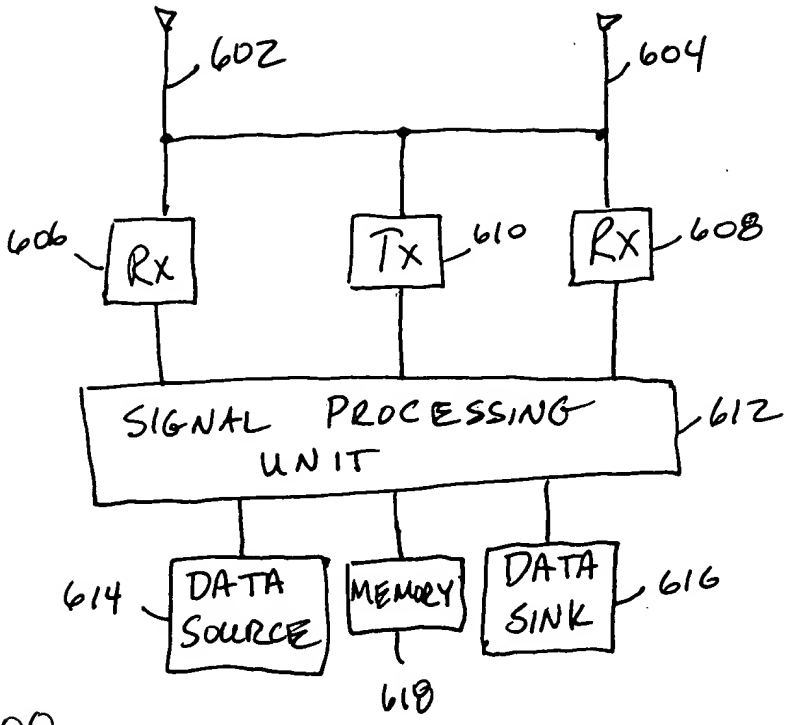

602
604
606
Rx
Tx
610
Rx
608
SIGNAL PROCESSING UNIT
612
614
DATA SOURCE
MEMORY
618
DATA SINK
616
600

FIG. 6

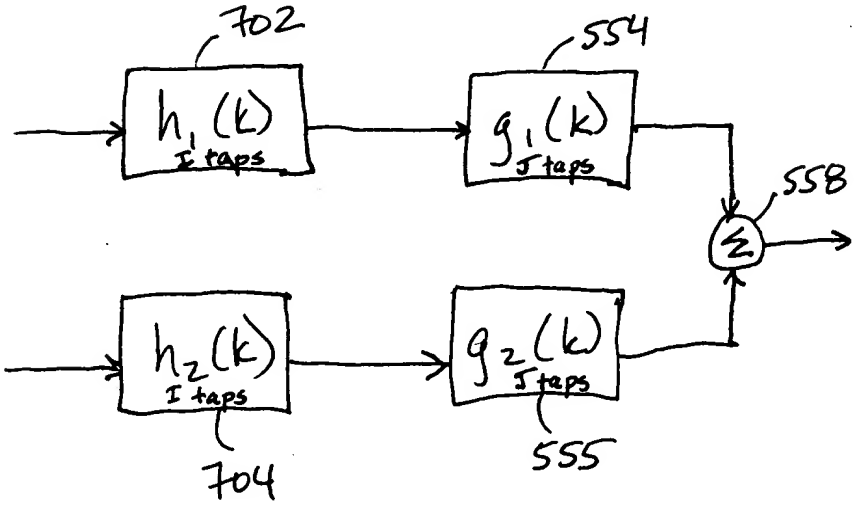

702
554
$h_1(k)$
I taps
$g_1(k)$
J taps
558
$h_2(k)$
I taps
$g_2(k)$
J taps
704
555
700

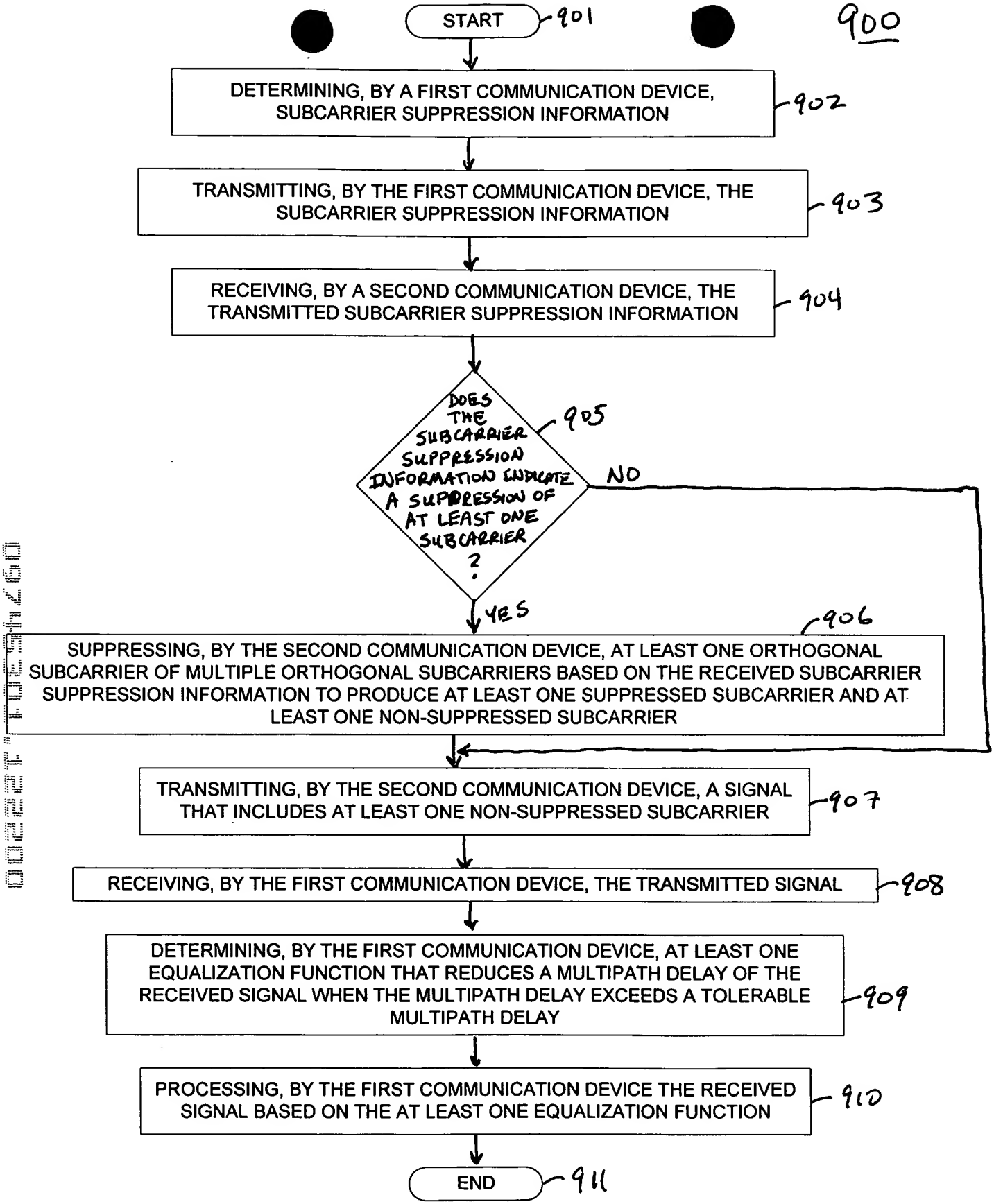
FIG. 7

COMPOSITE EQUALIZATION FUNCTIONS

	g_{f1}	g_{f2}	g_{f3}	. . .	$g_{fN_{gf}}$
Subcarrier 1	~~$SNR_1(g_{f1})$~~	$SNR_1(g_{f2})$	$SNR_1(g_{f3})$	. . .	$SNR_1(g_{fN_{gf}})$
Subcarrier 2	$SNR_2(g_{f1})$	$SNR_2(g_{f2})$	~~$SNR_2(g_{f3})$~~	. . .	$SNR_2(g_{fN_{gf}})$
Subcarrier 3	$SNR_3(g_{f1})$	~~$SNR_3(g_{f2})$~~	$SNR_3(g_{f3})$	. . .	$SNR_3(g_{fN_{gf}})$
	⋮	⋮	⋮	. . .	⋮
Subcarrier 'n'	$SNR_n(g_{f1})$	$SNR_n(g_{f2})$	$SNR_n(g_{f3})$	. . .	$SNR_n(g_{fN_{gf}})$

800

FIG. 8


900
START
901
DETERMINING, BY A FIRST COMMUNICATION DEVICE, SUBCARRIER SUPPRESSION INFORMATION
902
TRANSMITTING, BY THE FIRST COMMUNICATION DEVICE, THE SUBCARRIER SUPPRESSION INFORMATION
903
RECEIVING, BY A SECOND COMMUNICATION DEVICE, THE TRANSMITTED SUBCARRIER SUPPRESSION INFORMATION
904
DOES THE SUBCARRIER SUPPRESSION INFORMATION INDICATE A SUPPRESSION OF AT LEAST ONE SUBCARRIER ?
905
NO
YES
906
SUPPRESSING, BY THE SECOND COMMUNICATION DEVICE, AT LEAST ONE ORTHOGONAL SUBCARRIER OF MULTIPLE ORTHOGONAL SUBCARRIERS BASED ON THE RECEIVED SUBCARRIER SUPPRESSION INFORMATION TO PRODUCE AT LEAST ONE SUPPRESSED SUBCARRIER AND AT LEAST ONE NON-SUPPRESSED SUBCARRIER
TRANSMITTING, BY THE SECOND COMMUNICATION DEVICE, A SIGNAL THAT INCLUDES AT LEAST ONE NON-SUPPRESSED SUBCARRIER
907
RECEIVING, BY THE FIRST COMMUNICATION DEVICE, THE TRANSMITTED SIGNAL
908
DETERMINING, BY THE FIRST COMMUNICATION DEVICE, AT LEAST ONE EQUALIZATION FUNCTION THAT REDUCES A MULTIPATH DELAY OF THE RECEIVED SIGNAL WHEN THE MULTIPATH DELAY EXCEEDS A TOLERABLE MULTIPATH DELAY
909
PROCESSING, BY THE FIRST COMMUNICATION DEVICE THE RECEIVED SIGNAL BASED ON THE AT LEAST ONE EQUALIZATION FUNCTION
910
END
911
FIG. 9

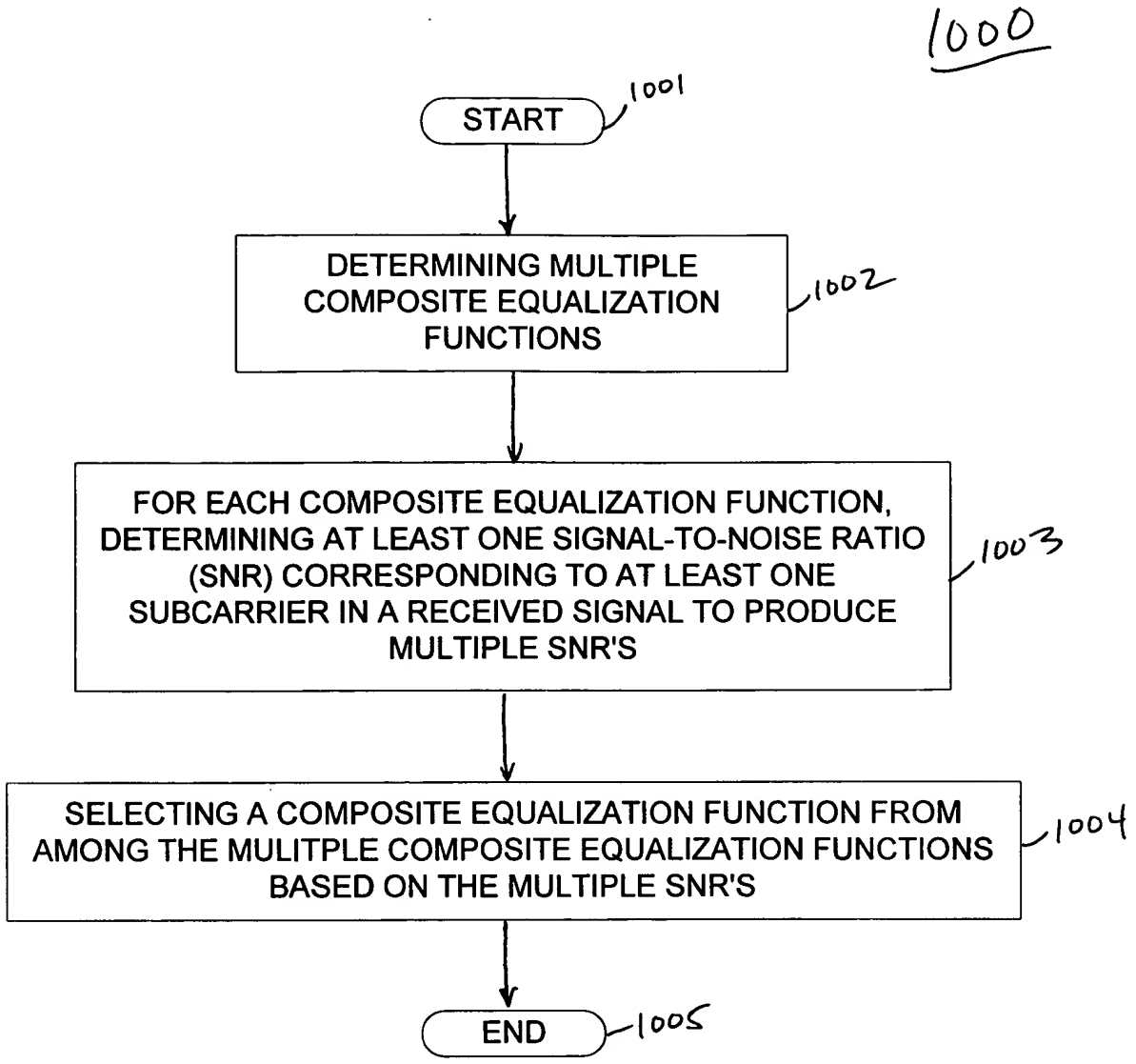

1000
START
1001
DETERMINING MULTIPLE COMPOSITE EQUALIZATION FUNCTIONS
1002
FOR EACH COMPOSITE EQUALIZATION FUNCTION, DETERMINING AT LEAST ONE SIGNAL-TO-NOISE RATIO (SNR) CORRESPONDING TO AT LEAST ONE SUBCARRIER IN A RECEIVED SIGNAL TO PRODUCE MULTIPLE SNR'S
1003
SELECTING A COMPOSITE EQUALIZATION FUNCTION FROM AMONG THE MULITPLE COMPOSITE EQUALIZATION FUNCTIONS BASED ON THE MULTIPLE SNR'S
1004
END
1005

FIG. 10